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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,234	03/07/2001	Kathleen B. Gross	56290USA5A.002	5421

7590 05/21/2002

Attention: Scott A. Bardell  
Office of Intellectual Property Counsel  
3M Innovative Properties Company  
P.O. Box 33427  
St. Paul, MN 55133-3427

EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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1712

3

DATE MAILED: 05/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/801,234

Applicant(s)

GROSS ET AL.

Examiner

Christopher M. Keehan

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-14, 16-22, 24-29 and 31-35 is/are rejected.
- 7) ☒ Claim(s) 7, 15, 23 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Allowable Subject Matter***

Claims 7, 15, 23, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. A reasonable search of the prior art of record failed to reveal the limitations as set forth in Claim 7, specifically the components of Claim 1, and the an epoxy reactive thioether-containing compound selected from the group as instantly claimed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-14, 16-22, 24-29, and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pocius et al. (4,521,490) in view of the Handbook of Epoxy Resins. Regarding Claims 1, 3, 4, and 34, Pocius et al. disclose an article comprising a substrate, and an adhesive comprising the reaction product of epoxy resin, a curative, and an epoxy reactive thioether-containing compound, adhesively bonded to a substrate (col.5, line 25-col.6, line 66). Although Pocius et al. disclose applying the adhesive to substrates that require a protective coating (col.3, lines 17-27), Pocius et al. do not specifically disclose a substrate comprising silicon, noble metal, plastics,

Art Unit: 1712

polyimide, or combinations thereof. The Handbook of Epoxy Resins discloses epoxidized thiols added to epoxy resins as a flexibilizer (page 16-3 and pages 21-36, 21-37) for an epoxy composition applicable to a variety of surfaces, including that as instantly claimed, more specifically gold and silver, glass (silicon dioxide), and general rubber and plastic substrates (Appendix, page 21-52 to 21-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the composition of Pocius et al. to a wide variety of surfaces, such as those in the general teaching of applicable substrates in the Handbook of Epoxy Resins because the Handbook of Epoxy Resins teaches that epoxy resins can be applied to a wide range of substrates.

Regarding Claim 2, it appears Pocius et al. do not specifically disclose wherein the plastic is selected from acrylonitrile-butadiene-styrene (ABS), poly(methyl methacrylate), polycarbonate, or mixtures thereof. It is the Examiner's position that ABS is a plastic. The Handbook of Epoxy Resins discloses substrates of rubber and plastics (Appendix, page 21-52 to 21-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the composition of Pocius et al. to a wide variety of surfaces, such as those in the general teaching of applicable substrates in the Handbook of Epoxy Resins because the Handbook of Epoxy Resins teaches that epoxy resins can be applied to a wide range of substrates. In addition, it appears Pocius et al. do not specifically disclose a molecular weight for the epoxy reactive thioether-containing compound of from about 320 to about 650, but rather teach a compound with a molecular weight of at least 1000. However, it

Art Unit: 1712

appears that Applicant's composition is drawn to a higher amount of the epoxy reactive thioether compound than Pocius et al. - from 10 to 80 parts by weight to 2-25 parts by weight for Pocius et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have decreased the molecular weight of the epoxy reactive thioether-containing compound as instantly claimed, and increased the amount added, rather than use less with a higher molecular weight as disclosed by Pocius et al. because the molar amount can, through experimentation, be kept relatively the same, absent evidence to the contrary.

Regarding Claims 5 and 6, Pocius et al. disclose wherein the epoxy reactive thioether-containing compound comprises a thioether di-epoxide (col.10, lines 11-26), and the epoxy resin comprises a polyfunctional phenolics glycidyl ether epoxy resin (col.7, lines 11-20).

Regarding Claim 8, the same reasoning as set forth above for Claim 1 also applies to Claim 8, as the claimed subject matter is essentially the same.

Regarding Claim 9, the same reasoning as set forth above for Claim 2 also applies to Claim 9, as the claimed subject matter is essentially the same.

Regarding Claim 10, Pocius et al. do not specifically disclose wherein the substrate is a print head or inkjet. The Pocius et al. combination does disclose applying the adhesive composition to substrates that require a protective coating, and substrates of noble metals, silicon, and plastics and rubber, which could be used for the instantly claimed intended use. This appears to be an obvious choice for one skilled in the art to

Art Unit: 1712

apply the coating to a substrate that suits a particular need, based on one's intended use.

Regarding Claim 11, the same reasoning as set forth above for Claim 1 also applies to Claim 11, as the claimed subject matter is essentially the same.

Regarding Claim 12, the same reasoning as set forth above for Claim 2 also applies to Claim 12, as the claimed subject matter is essentially the same.

Regarding Claims 13 and 14, the same reasoning as set forth above for Claims 5 and 6 also applies to Claims 13 and 14, as the claimed subject matter is essentially the same.

Regarding Claim 16 and 17, Pocius et al. disclose the epoxy reactive thioether-containing compound is present in from about 2 to 25 percent by weight (col.5, lines 43-60), which is included in the instantly claimed ranges.

Regarding Claims 18 and 19, Pocius et al. disclose the instantly claimed curative (col.6, lines 38-45), and the addition of fillers (col.12, lines 22-30).

Regarding Claim 20, Pocius et al. disclose a catalyst of an imidazole (col.13, line 55-col.14, line 8).

Regarding Claim 21, the same reasoning as set forth above for Claim 1 also applies to Claim 21, as the claimed subject matter is essentially the same.

Regarding Claim 22, the same reasoning as set forth above for Claim 2 also applies to Claim 22, as the claimed subject matter is essentially the same.

Regarding Claim 24, the same reasoning as set forth above for Claim 20 also applies to Claim 24, as the claimed subject matter is essentially the same.

Art Unit: 1712

Regarding Claim 25, Pocius et al. disclose a polyamine curative (col.6, lines 38-45).

Regarding Claim 26, Pocius et al. disclose an additive comprising silicon atoms (col.12, lines 22-30).

Regarding Claim 27, although it appears that Pocius et al. do not specifically disclose an adhesive with low-stress and water and solvent resistance, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have achieved at least similar properties in Pocius et al. as instantly claimed, because the materials of Pocius et al. are at least similar to those as instantly claimed, and at least similar materials would have been expected to yield at least similar results. Similar processes can reasonably be expected to yield products which inherently have the same properties. *In re Spada* 15 USPQ 2d 1655 (CAFC 1990); *In re DeBlauwe* 222 USPQ 191; *In re Wiegand* 86 USPQ 155 (CCPA 195).

Regarding Claim 28, the same reasoning as set forth above for Claims 11 and 14 also applies to Claim 28, as the claimed subject matter is essentially the same.

Regarding Claim 29, the same reasoning as set forth above for Claim 5 also applies to Claim 29, as the claimed subject matter is essentially the same.

Regarding Claim 31, the same reasoning as set forth above for Claim 6 also applies to Claim 31, as the claimed subject matter is essentially the same.

Regarding Claim 32, Pocius et al. disclose an epoxy reactive amine (col.6, lines 38-45).

Art Unit: 1712

Regarding Claim 33, Pocius et al. disclose an imidazole catalyst (col.13, line 55- col.14, line 8).

Regarding Claim 35, the same reasoning as set forth above for Claim 2 also applies to Claim 35, as the claimed subject matter is essentially the same.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Christopher Keehan *CME*

May 13, 2002



Robert Dawson  
Supervisory Patent Examiner  
Technology Center 1700